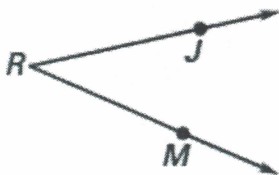


For #1-2, give 3 names for the given angle. Then name the vertex and the sides of the angle. (Target A)

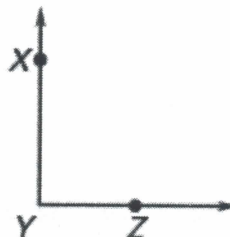
1.)



Names $\angle R$ $\angle JRM$ $\angle MRJ$

Vertex R Sides \overrightarrow{RJ} \overrightarrow{RM}

2.)



Names $\angle Y$ $\angle XYZ$ $\angle ZYX$

Vertex Y Sides \overrightarrow{YX} \overrightarrow{YZ}

For #3 - 10, classify each angle as *acute*, *right*, *obtuse* or *straight*. (Target 2C)

3.) $\angle EOD$ ACUTE

4.) $\angle EOB$ STRAIGHT

5.) $\angle COD$ RIGHT

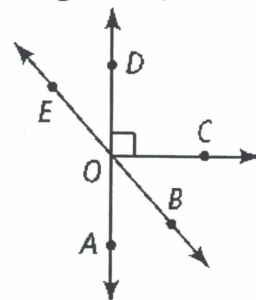
6.) $\angle BOD$ OBTUSE

7.) $\angle EOC$ OBTUSE

8.) $\angle DOA$ STRAIGHT

9.) $\angle AOC$ RIGHT

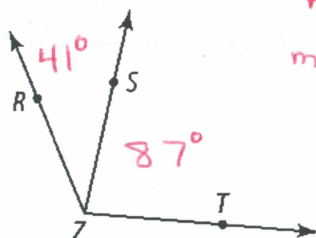
10.) $\angle BOA$ ACUTE



For #11 & 12, find the missing angle measures (Target 2D)

11.) If $m\angle RZS = 41^\circ$ and $m\angle SZT = 87^\circ$,

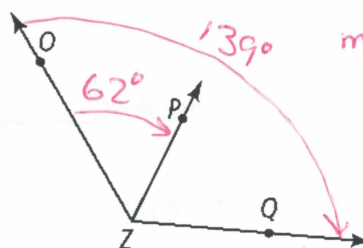
find $m\angle RZT$



$$\begin{aligned} m\angle RZT &= m\angle RZS + m\angle SZT \\ m\angle RZT &= 41^\circ + 87^\circ \\ &= 128^\circ \end{aligned}$$

12.) If $m\angle OZP = 62^\circ$ and $m\angle OZQ = 139^\circ$,

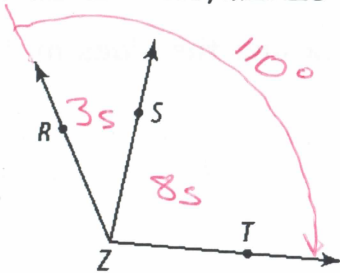
find $m\angle PZQ$



$$\begin{aligned} m\angle OZP + m\angle PZQ &= m\angle OZQ \\ 62^\circ + m\angle PZQ &= 139^\circ \\ -62^\circ &\quad -62^\circ \\ \hline m\angle PZQ &= 77^\circ \end{aligned}$$

For #13-15, solve for the variable and the indicated angle (Target 2D)

- 13.) If $m\angle RZT = 110$, $m\angle RZS = 3s$, and $m\angle TZS = 8s$, what are $m\angle RZS$ and $m\angle TZS$?



$$m\angle RZS + m\angle SZT = m\angle RZT$$

$$(3s) + (8s) = 110$$

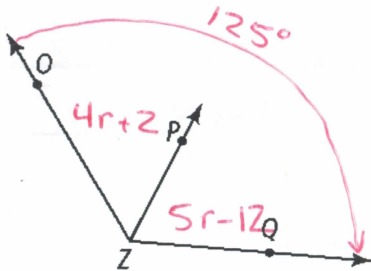
$$\frac{11s}{11} = \frac{110}{11}$$

$$s = 10$$

$$m\angle RZS = 3s = 3(10) = 30^\circ$$

$$m\angle SZT = 8s = 8(10) = 80^\circ$$

- 14.) $m\angle OZP = 4r + 2$, $m\angle PZQ = 5r - 12$, and $m\angle OZQ = 125$. What are $m\angle OZP$ and $m\angle PZQ$?



$$m\angle OZP + m\angle PZQ = m\angle OZQ$$

$$(4r+2) + (5r-12) = m\angle OZQ$$

$$\frac{9r-10}{+10} = \frac{125}{+10}$$

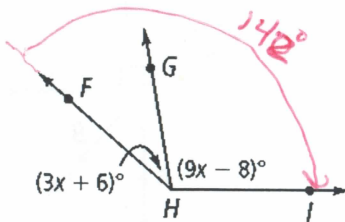
$$\frac{9r}{9} = \frac{135}{9}$$

$$r = 15$$

$$m\angle OZP = 4r + 2 = 4(15) + 2 = 60 + 2 = 62^\circ$$

$$m\angle PZQ = 5r - 12 = 5(15) - 12 = 75 - 12 = 63^\circ$$

- 15.) If $m\angle FHI = 142$, what are $m\angle FHG$ and $m\angle GHI$?



$$m\angle FHG + m\angle GHI = 142$$

$$(3x+6) + (9x-8) = 142$$

$$\frac{12x-2}{+2} = \frac{142}{+2}$$

$$\frac{12x}{12} = \frac{144}{12}$$

$$x = 12$$

$$m\angle FHG = (3x+6)$$

$$= 3(12) + 6 = 36 + 6 = 42^\circ$$

$$m\angle GHI = 9x - 8 = 9(12) - 8 = 108 - 8 = 100^\circ$$

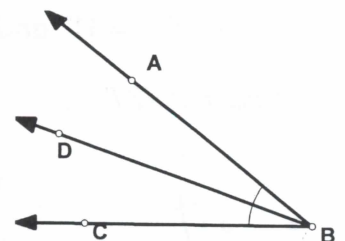
For #16-19, use the picture at the right to answer the questions. (Target 2D)

\overrightarrow{BD} bisects $\angle ABC$

- 16.) Name the congruent angles $\angle ABD$ $\angle DBC$

- 17.) If $m\angle ABC = 64^\circ$, find $m\angle DBC$ 32°

- 18.) If $m\angle ABD = 19^\circ$, find $m\angle ABC$ 38°



- 19.) If $\angle ABD = 3x + 8$ and $\angle CBD = 4x - 3$, find $m\angle ABC$.

$$m\angle ABD + m\angle CBD = m\angle ABC \rightarrow (3x+8) + (4x-3) = m\angle ABC$$

$$m\angle ABD = m\angle CBD$$

$$\begin{array}{r} 3x+8 = 4x-3 \\ -3x \quad -3x \\ \hline 8 = x-3 \\ +3 \quad +3 \\ \hline 11 = x \end{array}$$

$$(3(11)+8) + (4(11)-3) = m\angle ABC$$

$$\begin{array}{r} 33+8+44-3 = \\ 41+44-3 = \\ 85-3 = 82^\circ \end{array}$$